

In the claims:

Following is a complete set of claims as amended with this Response.

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1. (Original) An apparatus comprising:

a video network server to receive and transmit video signals to and from a plurality of clients using telephone wires;

a plurality of client frequency division multiplexing couplers, each associated with one of the plurality of clients, to receive video and telephone signals from the client and frequency multiplex them onto the telephone wires for transmission and to receive video signals from the server and frequency demultiplex them for transmission to the client;

a video frequency division multiplexing coupler connected between the video network server and each of the plurality of client frequency division multiplexing couplers to receive the video and telephone signals from the clients and transmit only the video signals to the video network server; and

a telephone frequency division multiplexing coupler connected between a telephone network switch and each of the plurality of client frequency division multiplexing couplers to receive the video and telephone signals from the clients and transmit only the telephone signals to the telephone network switch.

2. (Original) The apparatus of Claim 1 wherein the video frequency division multiplexing coupler further receives video signals from the video network server and transmits the video signals to the clients; and wherein the telephone frequency division multiplexing coupler further receives telephone signals from the telephone network switch and transmits the telephone signals to the clients.

3. (Original) The apparatus of Claim 1 further comprising a local area network connected to each of the plurality of clients and to the video network server to communicate control and configuration data regarding video signals communicated using the telephone wires.

4. (Original) The apparatus of Claim 1 further comprising a wide area network gateway connected to the video network server to communicate video signals between the video network server and other wide area network terminals, the communicated video signals being transmitted and received to and from the clients and the video network server.

5. (Original) The apparatus of Claim 1 further comprising a fan-in multiplexor connected between the video network server and the telephone wires, the multiplexor having a quantity of telephone wire connections, a lesser quantity of video network server connections, and a plurality of fan-in relays to connect the telephone wire connections to video network server connections.

6. (Original) The apparatus of Claim 5 wherein the fan-in multiplexor further comprises a control port connected to the video network server to control the connections made by the plurality of fan-in relays.

7. (Original) The apparatus of Claim 5 wherein the fan-in multiplexor further comprises a repeater associated with each relay to condition the signals communicated between the video network server and the respective client on the respective telephone wire.

8. (Original) The apparatus of Claim 1 wherein at least one of the client frequency division multiplexing couplers, the video frequency division multiplexing coupler and the telephone frequency division multiplexing coupler is a passive device.

9. (Original) The apparatus of Claim 1 wherein the client frequency division multiplexing couplers comprise:

a first modulating unit to modulate an outgoing telephone signal to a first carrier frequency;  
a second modulating unit to modulate an outgoing video signal to a second carrier frequency; and

a frequency multiplexer coupled to the first modulating unit and the second modulating unit to multiplex the outgoing telephone signal and the outgoing video signal onto a single telephone wire for transmission to a remote site.

10. (Original) The apparatus of claim 9, wherein the client frequency division multiplexing couplers further comprise a digital to analog converter coupled to the first modulating unit.

11. (Original) The apparatus of claim 9, wherein the client frequency division multiplexing couplers further comprise a filter coupled to the first modulation unit to filter away harmonics in the outgoing telephone signal which do not correspond to the first carrier frequency.

12. (Original) The apparatus of claim 1, wherein the client frequency division multiplexing couplers further comprise:

a first incoming signal filter to filter out a first band allocated for an incoming telephone signal;

a second incoming signal filter to filter out a second band allocated for an incoming video signal;

a first demodulator unit coupled to the first incoming signal filter to demodulate the incoming telephone signal at the first band to a demodulated telephone signal; and

a second demodulator unit coupled to the second incoming signal filter to demodulate the incoming video signal at the second band to a demodulated video signal.

13. (Original) The apparatus of claim 12, wherein the client frequency division multiplexing couplers further comprise a demodulating filter coupled to the first demodulator unit to filter away harmonics in the demodulated telephone signal which do not correspond to the telephone carrier signal.

14. (Original) The apparatus of claim 13, wherein the client frequency division multiplexing couplers further comprise an analog to digital converter coupled to the demodulating filter.

15. (Original) An apparatus comprising:  
server means for receiving and transmitting video signals to and from a plurality of clients using telephone wires;

a plurality of client multiplexer means, each associated with one of the plurality of clients, for receiving video and telephone signals from the client and frequency multiplexing them onto the telephone wires for transmission and for receiving video signals from the server means and frequency demultiplexing them for transmission to the client;

server multiplexer means connected between the server means and each of the plurality of client multiplexer means, for receiving the video and telephone signals from the clients and transmitting only the video signals to the server means; and

telephone multiplexer means connected between a telephone network switch and each of the plurality of client multiplexer means for receiving the video and telephone signals from the clients and transmitting only the telephone signals to the telephone network switch.

16. (Original) The apparatus of Claim 15 further comprising means separate from the telephone wires for communicating control and configuration data regarding video signals between the server means and the clients.

17. (Original) The apparatus of Claim 15 further comprising means for connecting the server means to a wide area network gateway to communicate video signals to the server means.

18. (Original) The apparatus of Claim 15 further comprising fan-in means for connecting a larger quantity of telephone wire client connections to a lesser quantity of server means connections.

19. (Original) The apparatus of Claim 15 wherein the client multiplexer means comprise:

means for modulating telephone signals to a first carrier frequency;

means for modulating video signals to a second carrier frequency; and

means for multiplexing the modulated telephone signals and the modulated video signals onto a single telephone wire for transmission.

20. (Currently Amended) A method comprising:

multiplexing a client telephone signal onto a telephone wire;

multiplexing a client video signal onto the telephone wire;

*a* communicating control and configuration data regarding video signals between the server and the client over a network connection separate from the telephone wire; *a video*

demultiplexing the telephone signal from the telephone wire and providing it to a telephone switch; and

demultiplexing the video signal from the telephone wire and providing it to *the* a video server.

21. (Currently Amended) The method of Claim 20 wherein further comprising communicating control and configuration data ~~regarding video signals~~ comprises communicating control and configuration data between the server and the client over an Ethernet a network connection ~~separate from the telephone wire~~.

22. (Original) The method of Claim 20 wherein multiplexing and demultiplexing comprise frequency multiplexing and frequency demultiplexing, respectively.

23. (Original) The method of Claim 22 wherein multiplexing a client telephone signal and a client video signal onto a telephone wire comprises:

modulating telephone signals to a first carrier frequency;

modulating video signals to a second carrier frequency; and

multiplexing the modulated telephone signals and the modulated video signals onto a single telephone wire for transmission.

24. (Original) An apparatus comprising:

a video network server to receive and transmit video signals to and from a plurality of clients using telephone wires;

a local area network separate from the telephone wires connected to each of the plurality of clients and to the video network server to communicate control and configuration data regarding video signals communicated using the telephone wires;

a plurality of client relays, each associated with one of the plurality of clients, to alternately connect the telephone wires of the respective client to one of either video or telephone equipment of the respective client, the client relays being controlled by the video network server through the local area network; and

a plurality of network relays, each associated with one of the plurality of clients, to alternately connect the telephone wires of the respective client to one of either the video network server or a telephone network switch, the network relays being controlled by the video network server through the local area network.

25. (Original) The apparatus of Claim 24 wherein the video network server communicates commands over the local area network to the clients to control the client relays and the network relays and wherein the respective client controls the respective relays in response to the commands received from the video network server.

26. (Original) The apparatus of Claim 24 further comprising a wide area network gateway connected to the video network server to communicate video signals between the video network server and other wide area network terminals, the communicated video signals being transmitted and received to and from the clients and the video network server.

27. (Original) The apparatus of Claim 24 further comprising a fan-in multiplexor connected between the video network server and the telephone wires, the multiplexor having a quantity of telephone wire connections, a lesser quantity of video network server connections, and a plurality of fan-in relays to connect the telephone wire connections to video network server connections.

28. (Original) The apparatus of Claim 27 wherein the fan-in multiplexor further comprises a control port connected to the video network server to control the connections made by the plurality of fan-in relays.

29. (Original) The apparatus of Claim 27 wherein the fan-in multiplexor further comprises a repeater associated with each relay to condition the signals communicated between the video network server and the respective client on the respective telephone wire.

30. (Original) An apparatus comprising:  
server means for receiving and transmitting video signals to and from a plurality of clients using telephone wires;

LAN means separate from the telephone wires for communicating control and configuration data regarding video signals between the server means and the clients;

client relay means controlled by the server means through the LAN means, each associated with one of the plurality of clients, for alternately connecting the telephone wires of the respective client to one of either video or telephone equipment of the respective client; and

a plurality of network relay means controlled by the server means through the LAN means, each associated with one of the plurality of clients, for alternately connecting the telephone wires of the respective client to one of either the video network server or a telephone network switch.

31. (Original) The apparatus of Claim 30 wherein the server means communicates commands over the LAN means to the clients for controlling the relay means and wherein the respective client controls the respective relay means in response to the commands received from the server means.

32. (Original) The apparatus of Claim 30 further comprising gateway means connected to the server means for communicating video signals between the server means and wide area network terminals and wherein the server means communicates video signals between the clients and the wide area network terminals.

33. (Original) The apparatus of Claim 30 further comprising fan-in means for connecting a larger quantity of telephone wire client connections to a lesser quantity of server means connections.

34. (Original) The apparatus of Claim 33 wherein the fan-in means further comprises control connection means connected to the server means for controlling the connections made by the fan-in means.

35. (Original) A method comprising:



modulating at least one of a client telephone signal and a client video signal onto a telephone wire;

communicating control and configuration data regarding the modulated signal between a video server and a client using a network connection separate from the telephone wire;

controlling a client relay through the network connection to alternately connect the telephone wires of the respective client to one of either video or telephone equipment of the respective client; and

controlling a network relay through the network connection to alternately connect the telephone wires of the respective client to one of either the video server or a telephone network switch.

36. (Original) The method of Claim 35 wherein controlling the relays comprises communicating commands over the network connection from the video server to the client and controlling the relays through the client.

37. (New) A method comprising:

receiving frequency multiplexed video signals from a server using telephone wires and frequency demultiplexing the video signals for transmission to a client;

receiving frequency multiplexed telephone signals from a telephone network switch using the telephone wires and frequency demultiplexing the telephone signals for transmission to the client;

receiving video and telephone signals from the client and frequency multiplexing them onto the telephone wires for transmission;

receiving the frequency multiplexed video and telephone signals from the client and transmitting only the video signals to the server; and

receiving the frequency multiplexed video and telephone signals from the client and transmitting only the telephone signals to the telephone network switch.

38. (New) The method of Claim 37 further comprising communicating control and configuration data regarding video signals between the server and the client separate from the telephone wires.

39. (New) The method of Claim 37 further comprising communicating video signals to the server using a wide area network gateway.

40. (New) The method of Claim 37 wherein receiving video and telephone signals from the client and frequency multiplexing them onto the telephone wires comprises:

modulating telephone signals to a first carrier frequency;

modulating video signals to a second carrier frequency; and

multiplexing the modulated telephone signals and the modulated video signals onto a single telephone wire for transmission.

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